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14. ABSTRACT Measurements of performance and measurements of effectiveness are invaluable to an operational commander. In irregular warfare, their misapplication or misunderstanding can often cause self-defeating actions. In both Afghanistan and Iraq, many units have been exposed to this antithetical phenomenon. Operational units are lured to conventional metrics while fighting irregular warfare which often leads to dysfunctional behavior. This is primarily due to the lack of knowledge of measures of performance and effectiveness, service factors, and the military rewards system. This analysis will investigate the difficulties with the current system of measurements at the operational level of war and how that influences behavior both within an organization and down to its subordinates. Finally, common principles of measurements will be outlined from the study of both the public and private sector to assist in suggestions for measuring performance and effectiveness in irregular warfare.					
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**NAVAL WAR COLLEGE  
Newport, R.I.**

**Measuring Performance and Effectiveness in Irregular Warfare:  
Preventing Dysfunctional Behavior**

**by**

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**Major USMC**

**A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.**

**The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.**

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## **Abstract**

Measurements of performance and measurements of effectiveness are invaluable to an operational commander. In irregular warfare, their misapplication or misunderstanding can often cause self-defeating actions. In both Afghanistan and Iraq, many units have been exposed to this antithetical phenomenon. Operational units are lured to conventional metrics while fighting irregular warfare which often leads to dysfunctional behavior. This is primarily due to the lack of knowledge of measures of performance and effectiveness, service factors, and the military rewards system. This analysis will investigate the difficulties with the current system of measurements at the operational level of war and how that influences behavior both within an organization and down to its subordinates. Finally, common principles of measurements will be outlined from the study of both the public and private sector to assist in suggestions for measuring performance and effectiveness in irregular warfare.

## INTRODUCTION

Measurements of performance and effectiveness (MOP&Es) have historically enhanced the performance of a variety of organizations including financial institutions, governmental organizations, professional sports teams, and so forth. MOP&E has been equally valuable to the military. The reason for this is simple: measurements have power.<sup>1</sup> They have the ability to persuade decision makers, alert stakeholders, and motivate or discourage subordinates like no other tool in a commander's arsenal. People are conditioned to apply quantifiable information to justify their decisions. While the reasons for measuring are substantiated, the misapplication or misunderstanding of measurements can often cause self-defeating actions. Unfortunately, the military has been predisposed to this antithetical phenomenon. Operational units engaged in irregular warfare (IW) are lured to conventional metrics which often leads to dysfunctional behavior. This is primarily due to the lack of knowledge of MOP&Es, service factors, and the military rewards system.

During Operation IRAQI FREEDOM, a widely accepted measure of performance was the number of detainees apprehended during military operations. For years during stability, security, transition, and reconstruction (SSSTR) operations, it was logical to assume that the number of people detained in a counterinsurgency was an effective metric in IW. This was acknowledged by former Defense Secretary Donald H. Rumsfeld in 2005 during an interview on National Public Radio.<sup>2</sup> Regrettably, this measurement had long become ineffective due to the dysfunctional tactical behavior that it had produced. It paradoxically had an inverse relationship to countering the insurgency. Raids, cordons and searches, and

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<sup>1</sup> Dean R. Spitzer, *Transforming Performance Measurement: Rethinking the Way We Measure and Drive Organizational Success* (New York: American Management Association, 2007), 12

<sup>2</sup> Donald H. Rumsfeld, "Secretary Rumsfeld Interview with National Public Radio's Steve Inskeep for "Morning Edition,"" *Defense Link* (March 29, 2005) <http://www.defenselink.mil/transcripts/transcript.aspx?transcriptid=2551> (accessed on April 26, 2009)

direct action tactics were rampant throughout Iraq for both conventional and special operations forces (SOF) in the summer of 2003. Thousands of Iraqis were detained, often hauled away in front of their families in the middle of the night. The authorities' premise was to first detain, then after interrogation, "determine who was of value and who was not."<sup>3</sup> This dysfunctional behavior transgressed as units started detaining the families of suspected insurgents to draw out High Value Individuals (HVIs).<sup>4</sup> The culturally barbaric manner in which these operations were being conducted often created a permanent and deep-rooted "blood debt" between coalition forces and otherwise neutral or pro-coalition members of the host nation populace. While it was perfectly reasonable to assume that the number of detainees apprehended would weaken an insurgency, other data suggested that this approach had the opposite effect.<sup>5</sup> This self-defeating behavior was also seen in the French Algerian War in the 1950s. "First comes the mass indiscriminate round-up of suspects, most of them innocent but converted into ardent militants by the fact of their imprisonment."<sup>6</sup>

This paper will explore the reasons why some measurements become problematic for military organizations conducting IW. The analysis will investigate the difficulties with the current system of measurements at the operational level of war and how that influences behavior both within an organization and down to its subordinate units. Finally, common principles of measurements will be outlined from the study of both the public and private sector to assist in suggestions for measuring performance and effectiveness in IW.

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<sup>3</sup> Thomas E. Ricks, *Fiasco* (New York: Penguin Press, 2006), 195-199.

<sup>4</sup> Ibid., 236.

<sup>5</sup> Michael E. O'Hannlon and Jason H. Campbell. *Iraq Index: Tracking Variables in Reconstruction and Security in Post-Saddam Iraq* (Brookings Institute, 24 April 2009), 6-8. <http://www.brookings.edu/saban/~media/Files/Centers/Saban/Iraq%20Index/index.pdf> (accessed on April 26, 2009).

<sup>6</sup> Alistair Horne, *A Savage War of Peace: Algeria 1954-1962* (New York, NY: NYRB Classics, 2006), 96.



While the United States and its coalition partners are approaching a decade of fighting insurgencies in both Afghanistan and Iraq, it is imperative to now build a competency in measurements, develop skills for a productive measurement system, and implement it into current military operations. Not only will that help to identify and prevent dysfunctional behavior, it will also support operational commanders in diagnosing problems, making critical decisions, fostering learning, adjusting strategies, and reviewing tactics.

## **BACKGROUND**

**Why are measurements important?** There are volumes of information on the benefits of measurements. Table I provides a brief compilation of the reasons why organizations strive for a quality measurement program. There are, however, two primary factors that capture the essence of measurements: First, MOP&Es can be a vehicle for change. Businesses like Southwest Airlines and Dell Computer Company have not only completely revolutionized their companies, but have also led the development of their respective industries by the way they thoughtfully select and track measurements.<sup>7</sup> Government organizations such as the U.S. Postal Service and the Defense Finance and Accounting Service have also made dramatic improvements to customer service and internal practices by adopting measurement theories from the private sector.<sup>8</sup> Second, MOP&Es influences attitude, motivation, and most importantly behavior. Nearly all people are familiar with the phrase, “what gets measured gets managed, and what gets managed gets done.”<sup>9</sup> Research has validated the relationship between selected measurements of an

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<sup>7</sup> Spitzer, *Transforming Performance Measurement*, 76-77

<sup>8</sup> Nicholas J. Mathys and Kenneth R. Thompson, *Using the Balanced Scorecard: Lessons Learned from the U.S. Postal Service and the Defense Finance and Accounting Service* (IBM Center for The Business of Government, 2006)

<sup>9</sup> Spitzer, *Transforming Performance Measurement*, 68

organization and the behavior of the individuals in it. These two factors demonstrate the magnitude of influence that measurements have on an institution.

**The Importance of MOP&Es in IW.** In the era of large, conventional state-on-state conflict and attrition warfare, MOP&Es were more simplistic. Leaders measured military operations by Battle Damage Assessment (BDA), control of domains (land, maritime, and air), and palpable intermediate/ultimate objectives. As the tendency of fighting limited and irregular wars has become more prominent, MOP&Es have become more complex. IW, as defined by the Irregular Warfare Joint Operational Concept (IW JOC), centers on “the legitimacy and influence over relevant populations.” IW requires a holistic approach that involves interagency and international partners.<sup>10</sup> Operational leaders have to focus on non-kinetic factors such as building host nation capacity, economic development, and implementing political systems. Unfortunately, the sum of military actions seldom adds up to the intended political outcome. Without analyzing conventional metrics with multidimensional factors needed for long term stability, military gains can ultimately prove to be counterproductive. That is the reason a measurement program needs to gauge social, political, and economic factors critical to the ‘relevant population’ concurrently with the other MOP&Es that are more focused on the enemy.

In IW, concentrating solely on metrics such as BDA is comparable to a business concentrating solely on revenue. The giant movie rental company Blockbuster is a sound example of this. CNET News explains, “Sure, the company still enjoys revenue that climbs into the billions of dollars, but with an ever-increasing net loss and a public refusal to focus

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<sup>10</sup> Joint Forces Command, Joint Warfighting Center. *Irregular Warfare (IW) Joint Operational Concept* (Suffolk, VA: Joint Warfighting Center, 11 September 2007), 1

on Total Access – the area where Netflix continues to dominate...Blockbuster is doomed.”<sup>11</sup>

While bottom line figures such as monthly earnings are important, unless taken in context with other elements such as product innovation and customer satisfaction, a business model that fixates on profits could be headed for catastrophe. A similar example of this was experienced in Iraq in 2003. While success was declared according to conventional metrics, more population-oriented MOP&Es like unemployment among Iraqi males and electricity output/outages could have given a better indication of an impending insurgency.

### **WHY DO MOP&Es FAIL IN IRREGULAR WARFARE?**

Since all institutions and environments are unique, selecting meaningful metrics is an exploratory process. Table II provides a consolidation of some common reasons why measurements fail. An organization must spend time and resources to determine how to adapt and manage its metrics to better support its strategy. The reality of a measurement failure has grave consequences for the military in IW. Poor measurements of performance and effectiveness (MOP&Es) can cause gross inefficiencies, poor decisions, needless loss of life, and may contribute to mission failure. A glaring example of this was the now infamous body count metric adopted in Vietnam. Today, at both the strategic and the theater- strategic level of command, there is solid evidence that this mentality has been corrected. Reports such as “Measuring Stability in Iraq” and the Congressional testimony of General David H. Petraeus after the surge seem to indicate a deeper understanding of MOP&Es that focuses on the ‘relevant population’. Although improvements have been made at the most senior level of command, military organizations at the operational level of war are still drawn to

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<sup>11</sup> Donald Reisinger, “Say Goodbye to Blockbuster,” *CNET News* (November 2, 2007), [http://news.cnet.com/8301-13506\\_3-9809950-17.html](http://news.cnet.com/8301-13506_3-9809950-17.html) (accessed on April 26, 2009)

conventional metrics in IW. The three main causes of this trend are the lack of understanding of MOP&Es, service factors, and the military's incentives and rewards.

**Lack of knowledge of MOP&E.** If the amount of literature on a particular subject was commensurate with its complexity, then one could understand why so many organizations have difficulties with measurements. The degree of difficulty for the military increases exponentially when shifting from conventional to irregular war. Measurements go from easily obtainable and quantifiable to seemingly intangible and elusive. Operational commands find it difficult to observe and analyze data on social, economic, and political metrics that are importantly applicable in IW (see Figure 1). This ambiguity causes them to default to conventional metrics, such as body counts. It is analogous to the joke about the drunk who was asked why he was looking for his wallet on the well-lit street when he knew he lost it in the dark alley. His response was “because the light was better.”<sup>12</sup>

Conversely, there are cases where military units get lost in the intricacies in MOP&Es in IW. There is a measurement culminating point, where measuring too much can be just as detrimental as measuring too little. Military leaders can put too much emphasis on providing large volumes of measurement data, which can severely distract a subordinate staff from performing its primary tasks. There is also a point where a military unit can get engrossed with one particular metric. “Too often the measurement becomes an end in itself, disconnected from the larger purpose of the organization.”<sup>13</sup> An example of this can be seen in SSTR operations in Afghanistan. In the Office of the Inspector General's Audit of USAID/Afghanistan's School and Health Clinic Reconstruction Activities, one key metric

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<sup>12</sup> Douglas W. Hubbard, *How to Measure Anything: Finding the Intangibles in Business* (Hoboken, NJ: John Wiley and Sons, Inc., 2007), 98

<sup>13</sup> Spitzer, *Transforming Performance Measurement*, 12

that was associated with long-term stability was the number of schools built.<sup>14</sup> This may have caused the Provisional Reconstruction Teams (PRTs) to rush to get schools completed without considering the state of the existing school systems. As an analyst from the International Crisis Group stated, “many existing school buildings cannot hold their students and lack heat, furniture, and skilled teachers.”<sup>15</sup> In this case, the number of schools built may have overshadowed the desired outcome of educating Afghans. Meanwhile, the metric could also have proved to be self-defeating as competition for fiscal contracts may have fueled tribal feuds that ultimately caused instability.

One positive result of IW today in Afghanistan and Iraq is that interagency cooperation has permeated the operational and even tactical level war. While it has not yet been perfected, “the unified action necessary to integrate all available instruments of national power to address irregular threats” appears to have been implemented in daily operations.<sup>16</sup> Nevertheless, MOP&Es have been slow to reflect the same progress. Measurements remain focused on data that is easily tangible to the military like the number of motorized patrols executed in Iraq in a particular region. If that number is not correlated to another government agency’s poll on measuring neighborhood tension, a potential problem could be overlooked.<sup>17</sup> Tactics such as driving down the center of roadways to mitigate improvised explosive devices (IEDs) and diverting approaching civilian vehicles with warning shots to

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<sup>14</sup> USAID Office of Inspecting General, *Audit of USAID/Afghanistan’s School and Health Clinic Reconstruction Activities*. Audit Report no. 5-306-06-008-P (Manila, Philippines, 18 August 2006).

<sup>15</sup> Anne Barnard, “Afghan Projects Slow to Reach Villages,” *The Boston Globe* (October 17, 2004), [http://www.boston.com/news/world/middleeast/articles/2004/10/17/afghan\\_projects\\_slow\\_to\\_reach\\_villages/](http://www.boston.com/news/world/middleeast/articles/2004/10/17/afghan_projects_slow_to_reach_villages/) (accessed on April 26, 2009).

<sup>16</sup> JFC, *IW JOC*, 1

<sup>17</sup> “Measuring Stability and Security in Iraq, Report to Congress In accordance with the Department of Defense Appropriations Act 2007 (Section 9010, Public Law 109-289)” (June 2007), 26.

avoid vehicle borne IEDs may alienate the population.<sup>18</sup> So measuring and benchmarking a high number of patrols could actually be self-defeating by increasing the tension among local civilians.

**Service Factors.** “Embedded in every organizational structure are competing and complex social orders, each with its own values and rules of conduct.”<sup>19</sup> This is particularly true when talking about different military service cultures. It is only natural that the U. S. Marine Corps and the U. S. Army have a traditional inclination toward conventional ground warfare. It is their principle mission, and for generations it has been ingrained in their culture. The characteristics of modern warfighting, however, have changed. The 2008 National Defense Strategy states that “U. S. domination in conventional warfare has given prospective adversaries, particularly non-state actors and their sponsors, strong motivation to adopt asymmetric methods to counter our advantages. For this reason we must display mastery of irregular warfare comparable to that which we possess in conventional combat.”<sup>20</sup> Operational leaders must be aware that the influence of U. S. service cultures can be an impediment to meaningful MOP&Es in IW.

Unfortunately, measurements have an inclination to promote each service’s self-interests. In Afghanistan, the tonnage of air-delivered ordnance dropped on targets has been realized as a detriment just as it was in Vietnam. The risk of airstrikes wounding/killing innocent civilians may at times outweigh the benefit the firepower.<sup>21</sup> Tonnage of air-

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<sup>18</sup> David Kilcullen, “Counterinsurgency Redux,” *Small Wars Journal*.  
<http://smallwarsjournal.com/documents/kilcullen1.pdf> (accessed April 29, 2009), 8-9.

<sup>19</sup> Craig S. Widen, *United States Military Cultures: A Mandatory Lesson for Senior Service College Curriculum* (Carlisle Barracks, PA: U.S. Army War College, 7 April 1997), 2.

<sup>20</sup> Department of Defense. *National Defense Strategy* (Washington, D.C., June 2008), 4,  
<http://www.defenselink.mil/news/2008%20national%20defense%20strategy.pdf> (accessed on 27 June 2009).

<sup>21</sup> Tom Vanden Brook, “Fewer Airstrikes in Afghanistan Mirror Tactical Shift,” *USA Today* (April 8, 2009).  
[http://www.usatoday.com/news/military/2009-04-07-bombs\\_N.htm](http://www.usatoday.com/news/military/2009-04-07-bombs_N.htm)

delivered ordnance dropped, however, still remains valued today by the Air Force.<sup>22</sup> In the article *United States Military Cultures: A Mandatory Lesson for Senior Service College Curriculum*, it states that “The U. S. Air Force is culturally tied to manned aircraft.”<sup>23</sup> Arguably, this metric may be a culturally-driven phenomenon, but the *metric* can also be used to justify self-interests such as fiscal allocation and the relevancy of a new particular platform.

Another performance measurement tendency in military units is a concentration on ‘looking good rather than being good.’ Units may decide to declare success in whatever criteria they wish to use, to show short-term progress while concentrating on only one particular measure of success.<sup>24</sup> For instance, in the al Anbar Province of Iraq in 2006, a common measure of performance for ground forces was the number of enemy caches seized/destroyed. One battalion operations officer in the U.S. Marine Corps recalls that since it was easy to quantify, and appeared to temporarily cripple the enemy’s ability to conduct attacks, the measurement was recognized in a positive manner by operational leaders. The attention the measurement received could have been one reason the number of cache sweep missions increased significantly during that period.<sup>25</sup> A contrasting *metric* at the strategic level, however, indicated that enemy attacks in Iraq were actually increasing.<sup>26</sup> Given the near unlimited amount of ordnance at the enemy’s disposal, the effectiveness of the measurement may not have been commensurate to the praise it received. In spite of this fact, caches seized/destroyed continued to be used by units as a measure of success across al

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<sup>22</sup> Bruce Rolfsen, “Afghanistan Hit By Record Number of Bombs,” *Air Force Times* (July 18, 2008), [http://www.airforcetimes.com/news/2008/07/airforce\\_bomb\\_oef\\_071708/](http://www.airforcetimes.com/news/2008/07/airforce_bomb_oef_071708/) (accessed on April 26, 2009).

<sup>23</sup> Widen, *United States Military Cultures*, 9.

<sup>24</sup> Spitzer, *Transforming Performance Measurement*, 31

<sup>25</sup> Major Samuel Carrasco (Operations Officer, 3<sup>rd</sup> Battalion, 1<sup>st</sup> Marines, al Anbar Iraq 2005-2006), interview by author, 1 May 2009.

<sup>26</sup> O’Hannlon and Campbell. *Iraq Index*, 6-8.

Anbar. Although it was a relevant measurement, this is an example of how even an important metric can be subject to measurement inversion. One can speculate whether units needlessly generated cache sweep missions for self-promotion at the cost of other critical counter insurgency tasks.

The last service factor that hinders MOP&Es in IW is the simple capacity to conduct meaningful collection and analysis. In conventional warfare, measurements are quickly observed through reporting and intelligence. As illustrated previously in Figure 1, IW MOP&Es take a much longer time to compile. While in theater, the average tour length for a staff member at the operational level is from seven to thirteen months. A planner for Multi-National Forces-West in Iraq stated that while the understanding of IW measurements was appreciated, there simply was not enough time to get a meaningful observation that supported the commander's decision cycle. This resulted in undermanned staffs wasting valuable time attempting to measure things that were beyond the reach of the operational command.<sup>27</sup> The reasons why IW measurements have been successfully implemented at the strategic level are: (1) longer tour lengths or CONUS based tours, (2) more robust manpower, (3) use of contracted think tanks such as the Rand Corporation, and (4) easier access to interagency information and collaboration. While an operational level staff may have the competence to establish an effective measurement program for IW, it may simply not have the capacity to do so. Once again, this creates a tendency for forces to revert back to conventional MOP&Es.

**Military Rewards.** The final category that causes military units to fail in MOP&E is that conventional metrics are used to reward individual service members. In the civilian

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<sup>27</sup> Lieutenant Colonel Gerry Leonard (Operational Planner, Multi-National Forces-West, Iraq 2005-2006), interview by author, 15 April 2009.



financial sector, rewards are easily assessed as the monetary bonuses. In the military, fitness reports, awards, promotions, media coverage, exposure, and professional reputations are closely linked to the performance of leaders/units in kinetic engagements. While forceful tactics may produce short-term results in IW, they can also have lasting detrimental effects, such as alienating a population. “When individuals are highly incented, the measurement system becomes a tug-of-war between opposing interests; those who are trying to do the best for the organization and those who want to do the best for themselves.”<sup>28</sup> In fact, associating rewards based on MOP&Es often lies at the heart of dysfunctional behavior. If conventional *metrics* are cited in a military award, a fitness report, or a high profile article, it can reinforce conventional tactics which may ultimately work counter to the long-term strategy. Comparatively speaking, measurements that concentrate on so-called soft power usually do not receive the same fanfare at the operational and tactical level of warfare; therefore, they do not have the same influence on behavior.

### **WHAT IS NEEDED FOR MOP&Es**

Linking *measurements of performance and effectiveness* (MOP&Es) to behavior would appear to be a similar theory as effects-based operations (EBO). People may argue that trying to reverse-engineer *metrics* in warfare to get a desired behavior will ultimately be as fruitless as the failed implementation of EBO. As Marine General James N. Mattis states, “all operating environments are dynamic with an infinite number of variables; therefore, it is scientifically impossible to accurately predict an outcome of an action.”<sup>29</sup> Also, it would appear that the military is predisposed to influences, such as lack of measurement

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<sup>28</sup> Spitzer, *Transforming Performance Measurement*, 24

<sup>29</sup> Gen James N. Mattis (USMC), “USJFCOM Commanders Guidance for Effects-Based Operations,” *Joint Force Quarterly*, no. 51 (4<sup>th</sup> Qtr 2008), 105.

knowledge, service cultures, self interests, and rewards, which can completely distort the calibration of any measurement program. These factors, along with the risk associated with collecting certain measurements at the tactical level, would suggest that any attempt to measure IW below the strategic level is an exercise in futility.

Although, measurements have limitations, their link to behavior should be recognized. People will always have an inherent need for information and will always attempt to make judgments when comparing information. If you look at the media, there are a countless number of programs dedicated to analyzing sports, financial information, politics, and so on, in an attempt to either explain the past, the present, and/or predict the future. While badly selected MOP&Es can cause dysfunctional behavior, inattention also carries a significant opportunity cost in IW. Good measurements can serve as a catalyst for improvement. They can offer the commander the fidelity needed to make the best decisions at right times. They can also be tools to monitor and motivate subordinates.

***MOP&Es need to be understood.*** The military must develop a better understanding of the fundamentals of MOP&Es. While the intangibility and ambiguity factors increase in IW, nothing is immeasurable.<sup>30</sup> “Many measurements start by *decomposing* an uncertain variable into constituent parts to identify directly observable things that are easier to measure.”<sup>31</sup> Then one must determine the cost and risks associated with collecting the constituent parts and compare that against the net *informational value* of the measurement.<sup>32</sup> Operational leaders need to also recognize and accept that all measurement programs are flawed. They are a surrogate for reality. There is simply no perfect system to predict the

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<sup>30</sup> Douglas W. Hubbard, *How to Measure Anything: Finding the Intangibles in Business*. Hoboken (NJ: John Wiley and Sons, Inc., 2007), 1.

<sup>31</sup> Ibid., 109.

<sup>32</sup> Ibid., 85-100

long-term outcome of a business or military action. The best an organization can do is to understand the principles of measuring performance/effectiveness, have the awareness to mitigate the factors that cause inaccuracies and dysfunction, and invest in the development of a sound *measurement system*.

When measurement requirements overwhelm subordinate units or the measurement becomes an *end* in and of itself, leaders must ensure that the measurements are linked and aligned to the current strategy. Measurements have a shelf-life. Just as strategy is adjusted, so must MOP&Es be adjusted. Measurements must also be tailored to the particular phase in a conflict and/or a particular region. It is an art as much as it is a science.

The purpose for the measurement, and the reaction to the measurement, must be productive. It is a matter of distinguishing *informational measurements* from *motivational measurements*. One is used in a positive manner for informational purposes, while the latter is used in a potentially negative fashion for rewards or punishments.<sup>33</sup> “No matter what the function of a measurement, it should be based on the desire to better understand what is happening – and, at least initially – without judging (individuals or organizations).”<sup>34</sup>

***MOP&Es need leadership.*** Leaders must be cognizant of the power of measurements without instituting MOP&Es that are so prescriptive that they hamper a subordinate’s freedom or creativity. Measurements must be used to reinforce the mission statement, the commander’s intent, and the desired end-state. Commanders must also make junior leaders aware of the behavioral dysfunction that can happen with any type of

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<sup>33</sup> Spitzer, *Transforming Performance Measurement*, 23

<sup>34</sup> Ibid., 42

measurement. A healthy measurement program needs to be disconnected from rewards and punishment as much as it is practically possible.

The leader's reaction to particular measurements is what makes them so influential. Interpretation of measurements or *measurement literacy* is a trait that is developed over time. Commanders need to condition themselves not to over-react or personalize the information. Measurements should be for learning and not evaluating. This will mitigate the potential for cheating.

Finally, the MOP&Es used have to be complementary with a commander's intuition and judgment. There is no measurement substitute for a commander's perceptions on the ground. In the article, *Gauging Iraqi Readiness on the 'Feel'*, General Petraeus describes a new system for evaluating Iraqi Security Forces. He says that commanders should rely "heavily on 'feel', mixing hard data with subjective assessments from U.S. advisors."<sup>35</sup> Combining the arts of how to interpret data, develop the proper reaction to information, and a commander's intuition can be a recipe to successful MOP&Es.

## WHAT IS NEEDED FOR THE MILITARY

**Education.** The first step in eliminating dysfunctional behavior is to educate the force. There needs to be sound doctrine written about measurements as they pertain to the military. While the concepts *measurements of performance* (MOPs) and *measurements of effectiveness* (MOEs) are briefly covered in the *JP 5-0*, *FM3-24/MCWP 3-33.5* and the *Commander Handbook for an Effects-Based Approach to Joint Operations*, these publications do not go into the depth that is required. There needs to be a single reference that outlines the broad principles that encompass both conventional and irregular warfare.

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<sup>35</sup> Greg Jaffe, "Gauging Iraqi Readiness Centers On 'Feel'," *Wall Street Journal* (August 16, 2004), 4.

The vocabulary and concepts can even be broad enough to cover all aspects of the military measurements such as recruiting, training, maintenance, and so forth. Appendix A is a selected glossary of measurement terms and definitions extrapolated from multiple experts. As the Scottish philosopher Thomas Reid stated, “There is no greater impediment to the advancement of knowledge than the ambiguity of words.”<sup>36</sup> A common military vernacular is needed to develop a fundamental understanding of measurements.

There must also be a formal method to educate members of an operational staff on how to develop and implement metrics when conducting military operations, in particularly IW. This can be in the form of mandatory pre-deployment staff training or a formal course for key individual members of a staff to attend. The course should include the study of measurements, a review of pertinent case studies in both the private and public sectors (including their best practices and the lessons learned), and culminate with a measurement exercise. This will enhance a staff’s ability to develop and implement an effective measurement program for any mission that may be assigned.

***Principles and Framework.*** Along with establishing common terms and definitions, measurement doctrine must outline general measurement principles and framework. The book, *Transforming Performance Measurements* has four outstanding principles that could directly translate to military MOP&Es: *context, focus, integration, and interactivity*.<sup>37</sup>

The *context* of a measurement is “social and psychological climate” surrounding the measurement.<sup>38</sup> It is the manner in which leaders react to measurement information. This is

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<sup>36</sup> Hubbard, *How to Measure Anything*, 24.

<sup>37</sup> Spitzer, *Transforming Performance Measurement*, 51-55

<sup>38</sup> Ibid., 50-54

when the issue of rewards and punishments can create a negative *context*. As a rule of thumb, performance measure should be used as a steering tool rather than a grading tool.<sup>39</sup>

The *focus* of the measurement is analyzing what is of *informational value*. It is clearly defining the strategy and the chosen measures used to evaluate performance. When there is a broad desired end-state like a secure environment, it must be *decomposed* to its meaningful constituent parts; i.e., number of enemy attacks, size of host nation security forces, local per capita income, local unemployment rate, etc.

The *Integration* of the measurements means that there must be a variety of cross-functional measurements to gain more fidelity with the information. Integration must be intra-organization as well as inter-organization and horizontal as well as vertical. Measurement should cascade down from the strategic, through the operational, and down to the tactical level of war. Figure 2 illustrates *integration*.

Finally, there must be *interactivity*. This is the social aspect of a measurement. Since measurements are inherently flawed, they can cause unintended self-defeating and must continually be assessed and improved. It is imperative that leaders, staffs, stakeholders, technicians, etc. routinely meet to discuss results, interpretations, and appropriate revisions to a measurement program. If these four principles are applied, a measurement program will be more efficient and produce much richer insight.

As for a basic framework for measurements, the book, *Rethinking Performance Measurement* provides a great example of the Balanced Scorecard (BSC) approach. The BSC was developed by two Harvard Business School professors to create a multi-dimensional approach to measuring performance. In the 20 years since its inception, it has

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<sup>39</sup> Ibid., 43

been renowned for transforming multiple financial organizations, the U. S. Postal Service, the Australian Department of Defense, and many others.<sup>40</sup> It is a series of checks and balances to ensure short-term goals are supporting the long-term strategy. It also looks at MOP&E from the customer's perspective. For example, if the number of attacks on coalition forces drops significantly in a region in Afghanistan, that may be interpreted as a sign of progress. However, if number of combat patrols has dropped as well, the interpretation may be incorrect. With further analysis, there could actually be an increase in civilian murders. By balancing the three measurements versus one, a more accurate conclusion may be that the area is deteriorating. This framework, combined with a commander's intuition and assessment can give a far more accurate reading to the reality of the environment. Figure 3 represents a simplistic framework of the BSC may look like for measuring security in a region of Afghanistan.

***Staff Integration and Interactivity.*** An operational commander should consider forming a board to develop and manage MOP&Es. Even if this type of group exists at the theater strategic and operational level of command, this practice should be directed down to the tactical units. This Measurement Board should have a leader; most appropriately from the policy and plans directorate, since they are the ones responsible for strategy. It should include a member from each staff section, with particular emphasis on intelligence and operations. The board should also include representatives from subordinate commands as well as interagency and international partners that are willing to cooperate.

The purpose of the board is to foster the four principles of measurements, while concentrating predominantly on integration and interactivity. The agenda can start with

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<sup>40</sup> Exinfm.com, "Balanced Scorecard 101," [http://www.exinfm.com/workshop\\_files/scorecard\\_101.pdf](http://www.exinfm.com/workshop_files/scorecard_101.pdf) (accessed April 27, 2009), 1.

reviewing the last period of data and developing interpretations of data against all the different perspectives. First, this will prevent the stovepipe effect and ensure the board is giving the commander the best possible insights that the BSC can provide. Second, it will initiate interactive processes that can point out areas of potential or existing self-defeating behavior, measurements based on self interests, redundancies, and meaningless measurements. Third, it can identify measurements whose shelf-lives may have expired due to changing strategy, technology, or enemy situations. Finally, it can be a method to make recommendations to the commander on what measurements should be deleted, expanded, or revised. Figure 4 depicts how a representative measurement board would be organized and a more detailed graphic of the measurement development cycle.

## **CONCLUSIONS**

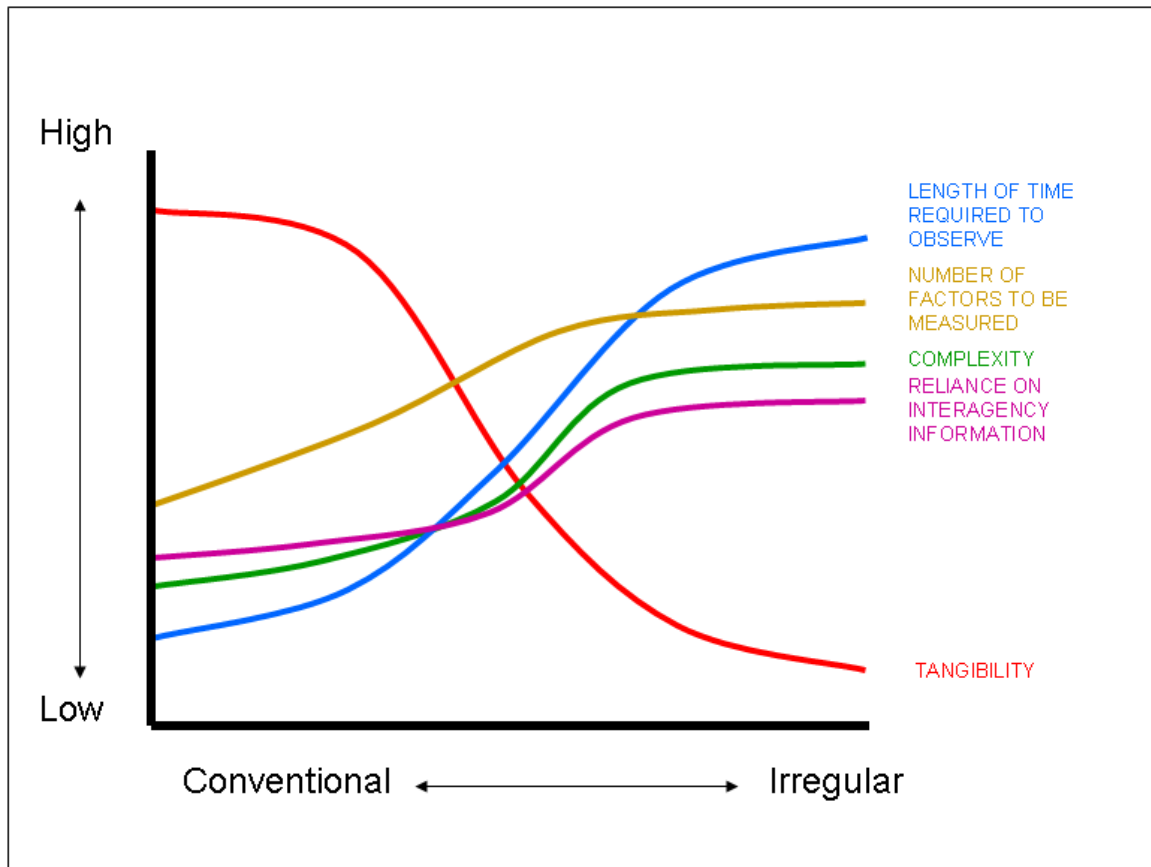
Measurements of performance and effectiveness remain an operational challenge with no prescriptive formula for success. One must remain focused on the tenets of irregular warfare. When formulating MOP&Es, use a holistic approach to measurements, leverage all instruments of national power for collection and analysis, and concentrate on measurements that matter to the ‘relevant population’. In analysis of the current problems with metrics with IW, three categories have formed: awareness, mitigation, and enhancement.

First, while there is no immediate solution to prevent the bias that can result from service cultures and organizational self-interests, just the fact the leaders are aware they exist, can help prevent the dysfunctional behavior that usually accompanies it. Leaders must also be conscious of behavior that is reinforced by different types of incentives and rewards that have evolved from a conventional mindset.

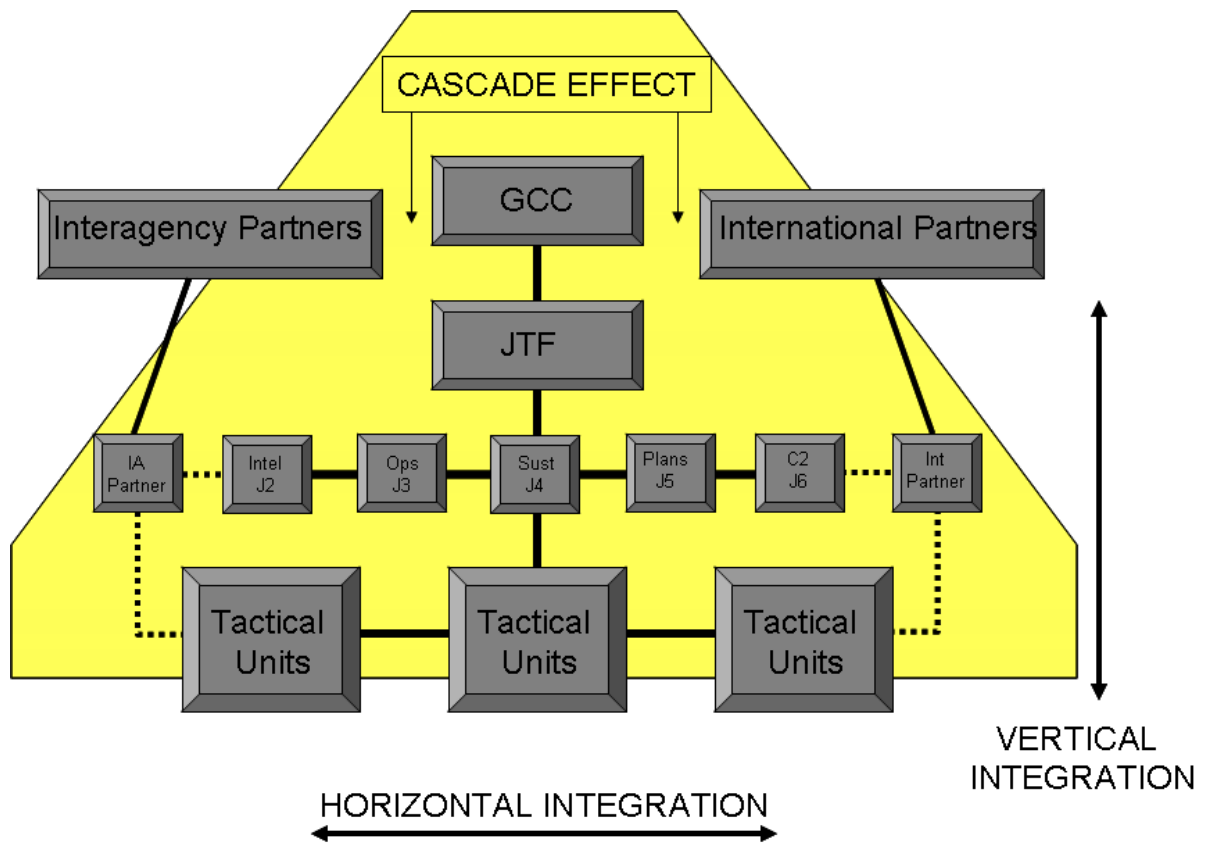


Second, by investing in the education of MOP&Es through the establishment of doctrine and professional military education, many of the factors that cause self-defeating behavior will be mitigated. Simply understanding how to develop measurements will keep units concentrating on measurements that matter versus measurements that are easy.

Finally, integrating the time-tested principles and framework of MOP&Es into current military operations will enhance the ability to measure factors that influence soft power. This will give the operational commander the balance to gauge the multidimensional factors that align military actions with a long-term political strategy.

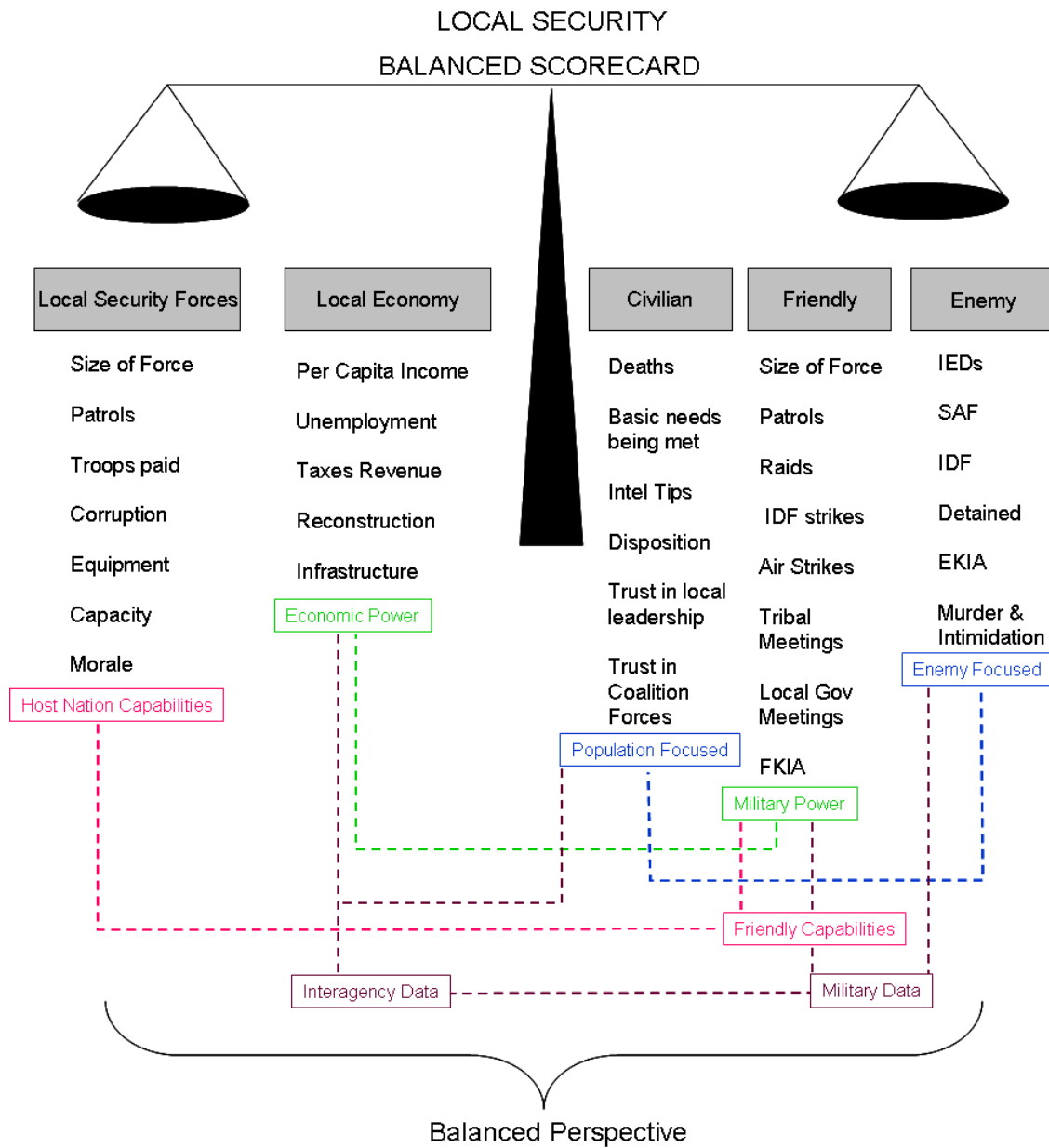


**Figure 1. Difficulties from Conventional to Irregular Measurements**

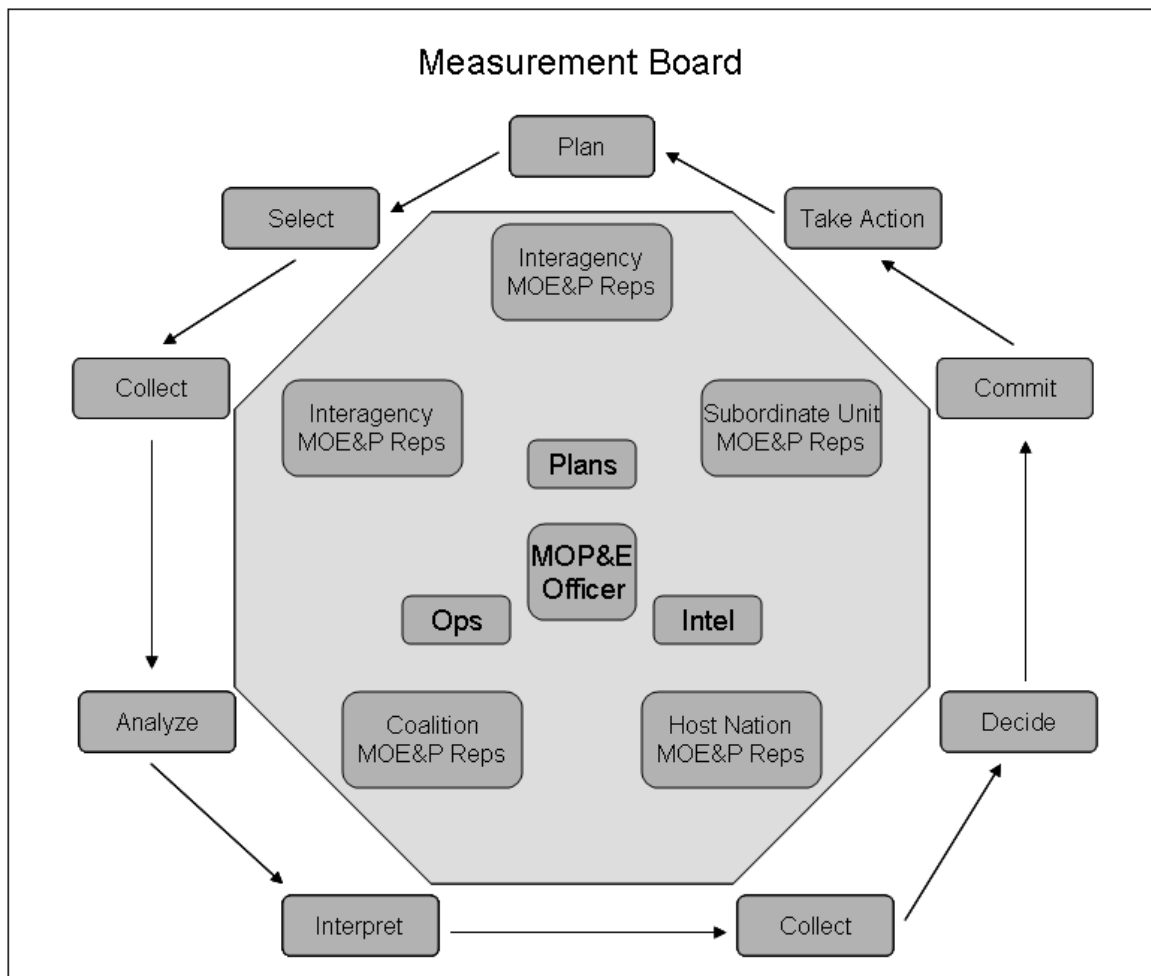


**Figure 2. Horizontal and Vertical Integration<sup>41</sup>**

<sup>41</sup> Spitzer, *Transforming Performance Measurement*, 87.



**Figure 3. A Balanced Scorecard Example of Local Security**



**Figure 4. Representative Measurement Board<sup>42</sup>**

<sup>42</sup> Spitzer, *Transforming Performance Measurement*, 110. Note: This only pertains to the nine steps of a performance measurement cycle.

<b>REASON</b>	<b>EXPLANATION</b>
<b>Define</b>	To clearly define problems
<b>Reduce Errors</b>	Prevent organizations from making mistakes
<b>Learn</b>	Foster learning in an organization
<b>Forecast</b>	Forecast future requirements
<b>Understand</b>	Understand the operating environment
<b>Improve Decisions</b>	Make better and more timely decisions
<b>Ensure</b>	Ensure subordinates are doing the right things.
<b>Motivate</b>	Motivate subordinates toward a goal
<b>Promote</b>	Promote a strategy or organization
<b>Celebrate</b>	To celebrate achieving a goal

**Table I. Reasons to Measure Performance and/or Effectiveness**<sup>43 44 45</sup>

<sup>43</sup> Hubbard, *How to Measure Anything: Finding the Intangibles in Business*, 5-17

<sup>44</sup> Robert Behn, "Why Measure Performance? Different Purpose Required Different Measures," *Public Administration Review* 63, no. 5 (September/October 2003), 588.

<sup>45</sup> Spitzer, *Transforming Performance Measurement*, 18-50

<b>REASON</b>	<b>EXPLANATION</b>
<b><i>Cheating</i></b>	Not being truthful in data representation
<b><i>Dysfunction</i></b>	Dysfunctional or self-defeating behavior
<b><i>Wrong Measurements</i></b>	Concentrating on the wrong measurements
<b><i>Measure too much</i></b>	Getting lost in the numbers
<b><i>Outdated Measurement</i></b>	Not recognizing the shelf-life of a measurement has expired due to change
<b><i>Rewards/Punishments</i></b>	Associating a <i>measurement program</i> with rewards and/or punishments
<b><i>Micromanagement</i></b>	Not giving subordinates freedom to make decisions
<b><i>Improper Context</i></b>	Using the measurements for the wrong purpose
<b><i>Poor knowledge</i></b>	Lack of understandings of measurements

**Table II. Reasons Measurements Fail<sup>46</sup>**

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<sup>46</sup> Spitzer, *Transforming Performance Measurement*, 20-50

## Appendix A – Selected Glossary of Measurement Terms

<i>informational measurement</i>	measurement for informational purposes (Spitzer, 23)
<i>Inputs</i>	resources, manpower, time, and activity toward a specific task. (Tootsen 19)
<i>Measurement</i>	A set of observations that reduce uncertainty where the result is expressed in a quantity. (Hubbard, 21)
<i>measurement decomposition</i>	Decomposing an uncertain variable into constituent parts to identify observable things that are easier to measure. (Hubbard, 109)
<i>measurements of effectiveness</i>	A criterion used to assess changes in system behavior, capability, or operational environment that is tied to measuring the attainment of and end state, achievement of an objective, or creation of an effect. (JP-50)
<i>measurement inversion</i>	The value of measuring a variable is inversely proportional to how much attention a measurement gets. (Hubbard, 96)
<i>measurement literacy</i>	the ability to read and interpret measurement data (Spitzer, 107)
<i>measurements of performance</i>	A criterion used to assess friendly actions that is tied to measuring task accomplishment. (JP 5-0)
<i>measurement resources</i>	available support for measurement activities (Spitzer, 58)
<i>measurement system</i>	comprised of measures, measurement process, and technical infrastructure (Spitzer, 56)
<i>motivational measurement</i>	measurement used for rewards or punishments (Spitzer, 23)
<i>Metric</i>	A measurement that is critical, time-tested and industry approved. (Spitzer, 68)
<i>Outcomes</i>	the consequence of outputs in the environment (Tootsen, 21)
<i>Outputs</i>	the results of activity in the form of services or products (Tootsen, 21)



## SELECTED BIBLIOGRAPHY

- Barnard, Anne. "Afghan Projects Slow to Reach Villages," *The Boston Globe*, October 17, 2004.  
[http://www.boston.com/news/world/middleeast/articles/2004/10/17/afghan\\_projects\\_slow\\_to\\_reach\\_villages/](http://www.boston.com/news/world/middleeast/articles/2004/10/17/afghan_projects_slow_to_reach_villages/) (accessed on April 26, 2009).
- Behn, Robert. "Measuring Outputs," *Public Management Report* 1, no. 10, (June 2004): 1-2.
- Behn, Robert. "Why Measure Performance? Different Purpose Required Different Measures," *Public Administration Review* 63, no. 5, (September/October 2003): 586-606.
- Carrasco, S., Major USMC (Operations Officer, 3<sup>rd</sup> Battalion, 1<sup>st</sup> Marines, al Anbar Iraq 2005-2006), interview by author, 1 May 2009.
- Clancy, James and Crossett, Chuck. "Measuring Effectiveness in Irregular Warfare," *Parameters* (Summer 2007): 88-100.
- Coons, Kenneth C. and Harned, Glenn M. "Irregular Warfare is Warfare," *Joint Force Quarterly*, no. 52 (1<sup>st</sup> Qtr 2009): 97-103.
- Cordessman, Anthony. *The Uncertain "Metrics" of Afghanistan (and Iraq)*. Washington, D.C.: Center for Strategic and International Studies, 18 May 2007.
- Department of Defense. *National Defense Strategy*. Washington, D.C., June 2008.  
<http://www.defenselink.mil/news/2008%20national%20defense%20strategy.pdf> (accessed on 27 June 2009).
- Dunn, William H. *In Search of Measures of Effectiveness for Counter Drug Operations*. Alexandria, VA: Defense Technical Information Center, 27 May 1993.
- Exinfm.com. "Balanced Scorecard 101."  
[http://www.exinfm.com/workshop\\_files/scorecard\\_101.pdf](http://www.exinfm.com/workshop_files/scorecard_101.pdf) (accessed April 27, 2009).

Hubbard, Douglas W. *How to Measure Anything: Finding the Intangibles in Business*. Hoboken, NJ: John Wiley and Sons, Inc., 2007.

Horne, Alistair. *A Savage War of Peace: Algeria 1954-1962*. New York: NYRB Classics, 2006.

Jaffe, Greg. "Gauging Iraqi Readiness Centers On 'Feel'," *Wall Street Journal*, August 16, 2004, 4.

Joint Forces Command, Joint Warfighting Center. *Commander's Handbook for an Effects-Based Approach to Joint Operations*. Suffolk, VA: Joint Warfighting Center. 24 February 2006.

Joint Forces Command, Joint Warfighting Center. *Irregular Warfare (IW) Joint Operational Concept*. Suffolk, VA: Joint Warfighting Center. 11 September 2007.

Joint Warfighting Center. *Joint Operation Planning (JP) 5-0*. Suffolk, VA: Joint Warfighting Center. 26 December 2006.

Kilcullen, David. "Counterinsurgency Redux," *Small Wars Journal*.  
<http://smallwarsjournal.com/documents/kilcullen1.pdf> (accessed April 29, 2009)

Leonard, G., Lieutenant Colonel USMC (Operational Planner, Multi-National Forces-West, Iraq 2005-2006), interview by author, 15 April 2009.

Mathys, Nicholas J. and Kenneth R. Thompson. *Using the Balanced Scorecard: Lessons Learned from the U.S. Postal Service and the Defense Finance and Accounting Service*. IBM Center for The Business of Government, 2006.

Mattis, James N., General USMC. "USJFCOM Commanders Guidance for Effects-Based Operations," *Joint Force Quarterly*, no. 51 (4<sup>th</sup> Qtr 2008): 105-108.

"Measuring Stability and Security in Iraq, Report to Congress In accordance with the Department of Defense Appropriations Act 2007 (Section 9010, Public Law 109-289)." June 2007.

- Meyer, Marshall W. *Rethinking Performance Measure: Beyond the Balanced Scorecard*. New York: Cambridge Press, 2002.
- Nelson, John J., Sandra L. Newett, Jonathan T. Dworken, Katherine A.W. McGrady, Kenneth LaMon. *Measures of Effectiveness for Humanitarian Assistance Operations*. Alexandria, VA: Center for Naval Analyses, April 1996.
- O'Hannlon, Michael E. and Jason H. Campbell. *Iraq Index: Tracking Variables in Reconstruction and Security in Post-Saddam Iraq*. Brookings Institute, 24 April 2009.  
<http://www.brookings.edu/saban/~media/Files/Centers/Saban/Iraq%20Index/index.pdf> (accessed on April 26, 2009).
- Petraeus, David H., General USA "Report to Congress on the Situation in Iraq General David H. Petraeus Commander, Multi-National Forces-Iraq." April 9, 2008.  
<http://foreignaffairs.house.gov/110/pet091007.pdf> (accessed April 26, 2009).
- Reisinger, Donald. "Say Goodbye to Blockbuster," *CNET News*, November 2, 2007.  
[http://news.cnet.com/8301-13506\\_3-9809950-17.html](http://news.cnet.com/8301-13506_3-9809950-17.html) (accessed on April 26, 2009).
- Ricks, Thomas E. *Fiasco*. New York: Penguin Press, 2006.
- Rolfesen, Bruce. "Afghanistan Hit By Record Number of Bombs," *Air Force Times*, July 18, 2008. [http://www.airforcetimes.com/news/2008/07/airforce\\_bomb\\_oef\\_071708/](http://www.airforcetimes.com/news/2008/07/airforce_bomb_oef_071708/) (accessed on April 26, 2009).
- Rumsfeld, Donald H. "Secretary Rumsfeld Interview with National Public Radio's Steve Inskeep for "Morning Edition,"" *Defense Link*, March 29, 2005.  
<http://www.defenselink.mil/transcripts/transcript.aspx?transcriptid=2551> (accessed on April 26, 2009).
- Simmons, Robert. *Designing Organizations for Performance: Alignment of Design and Strategy*. Boston, MA: Harvard Business School Press, 2005.
- Spitzer, Dean R. *Transforming Performance Measurement: Rethinking the way We Measure and Drive Organizational Success*. New York: American Management Association, 2007.

Tesoro, Ferdinand and Tootson, Jack. *Implementing Global Performance Measures: A Cookbook Approach*. San Francisco: Jossey-Bass Pfeiffer, 2000.

U.S. Department of Army. *Counterinsurgency Manual* (FM) 3-24/Marine Corps Warfighting Publication (MCWP) 3-33.5 Washington D.C.: Government Printing Office, 15 December 2006.

U.S. Marine Corps and U.S. Special Operations Command. *Multi-Service Concept for Irregular Warfare*. Quantico, VA and Tampa, FL: Government Printing Office, August 2006.

USAID Office of Inspecting General. *Audit of USAID/Afghanistan's School and Health Clinic Reconstruction Activities. Audit Report no. 5-306-06-008-P*. Manila, Philippines, 18 August 2006.

Vanden Brook, Tom. "Fewer Airstrikes in Afghanistan Mirror Tactical Shift," USA Today, April 8, 2009. [http://www.usatoday.com/news/military/2009-04-07-bombs\\_N.htm](http://www.usatoday.com/news/military/2009-04-07-bombs_N.htm)

Widen, Craig S. *United States Military Cultures: A Mandatory Lesson for Senior Service College Curriculum*. Carlisle Barracks, PA: U.S. Army War College, 7 April 1997.